



A STUDY ON VARIOUS ICT TOOLS

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ABSTRACT

ICT - Information and Communication Technologies. ICT in education means learning and teaching with the help of ICT tools. Education has taken a huge transformation, which started from the era of class rooms under the shade of tree, to small class rooms with black boards, underwent different methods of teaching and now teaching is closely associated with use of technology, tools.

Tools in present era has become an important part of teaching, ICT helps teachers to explain the complex instructions much easily and students comprehension can be ensured and hence knowledge of using this tools in teaching is very essential. In this direction this paper provides an insight into the various teaching tools their usage in teaching and sources of those tools availability.

INTRODUCTION:

One of the most challenging profession is teaching where the teacher has to cater the needs of different kinds of students present in a classroom with a span of one hour and convey the information to the students. Research is being carried out to understand the needs of the students to make the most of academic opportunities, teachers have to deal with different generations along the span of their career and there is a significant amount of research that has been carried out and students have been classified to different categories of generations with each generation having different needs and expectations and this information can help educational universities and teachers better cater the needs of students and direct them in the right path.

According to the studies the table 1 [2], below shows the different categories of generation taken from 1960 onwards and a comparison of them

Table 1: Comparison of generations

Perspective	Gen-X	Gen-Y	Gen-Z
Year of Birth	1965-1980	1981-1994	1995-2015
Life paradigm	Relate to me	Life is cafeteria	Make a difference
View of career	Irritant	Place to serve	Place to solve problems
View of technology	Enjoy it	Employ it	Live it
View of future	Hopeless	Optimistic	Solve it

From the table above, which is adopted in part from [2] it can be seen what the researchers have found about the current generations who are more enthusiastic about their work, studies and career and look for challenges to solve and have lot of expectations from the future and the most important point is that they are more inclined towards use of technology as part of their career.

So, to deal with such a generation technology is an essential component to communicate with them and this technology is much useful in teaching them in educational institutions.

ICT Tools:

There are various ICT Tools available and this paper makes an attempt to introduce all of them with their features and usage. ICT Tools can be classified into various categories depending on the purpose for which they are used and some of the categories required for the current paper study are:

1. Informative tools:

Informative tools are those applications which provide information in large amounts in various format like text, graphics, audio, video etc.

2. Constructing tools:

These tools can be used to manipulate information and present it in a new way like constructing the knowledge in a new way or presenting the information in a way which is visualization of the concept and which can help students in better understanding. MS Word, Power Point are the simple everyday used tool for this category.

3. Communicative tools:

This category of tool supports effective communication between teacher and student without time barriers. Examples of this category of tool includes e-mail, discussion room, chats, bulletin boards, electronic white board etc. WordPress, wiki space are the tools which come under this category.

4. Collaborative tools:

Collaborative tools of ICT are emphasizing more on online collaboration which supports.

Online development of projects more easy and helps distributed collaborative work. With the help of internet information can be disseminated, discussions can take place, meetings can be scheduled etc.

With an introduction into the above said category of tools let's see some of the examples of these kind of tools which can be adopted in teaching:

a. Quizzes/testing:

1. Flipped class room:

It is a kind of blended learning which reverses the way of teaching by providing the learning material outside the class room usually in the form of videos and the component which would be given an assignment would be solved in the class interactively. In traditional way of learning teacher would be the focus in the class room for information dissemination and students will look for teacher for content and would refer to teacher for getting clarified any questions. Students engagement in traditional model is very less. Flipped class room shifts the instruction mode to learner-centered model and in class time would be spent more on exploring knowledge on the topic in depth while the content is delivered using videos recorded by the teacher which would be of 10-15 min length. Flipped classroom is being implemented in both schools and colleges.

Out class activity in flipped classroom includes watching videos which are sent by the teacher online.

In class activity in flipped classroom includes solving problems, discussion among peers to explore more on the topic, in depth exploring, keeping students engaged in the class, debate, presentation, Q & A sessions.

Limitations with flipped class room is that information is disseminated in digital form and not all the family are with same socio-economic background and thus accessing computer and viewing videos outside the school/college environment is not possible for all the students. Some students may face difficulty in independent learning and may fall behind their peers.

Some argue that flipped class room increases time to be spent with gadgets watching where in an era already students are spending time on technology and are moving away from practice of reading books.

2. Moodle:

It is an open source course management system (CMS) software available free for download and helps in create effective online courses. It can be used to share assignments, conduct quiz to test students understanding on subject, provide deadlines for completing assignment, can share information about any deadlines, create discussion forums. Website for downloading Moodle has been provided.

in reference [3]. Use Moodle sandbox version to download and work with Moodle. Login should be created to explore the features of this website and contents uploaded by one user will be private and will be allowed to access by people who also have login to Moodle and are provided access by the user to access contents uploaded. It is an effective way to conduct quizzes for more number of students where questions can be uploaded onto local server within organization and for those quiz password can be set which will prevent the students from viewing the questions set by the instructor until the teacher provides the password to view the quiz, timer can be set for the completion of quiz. On elapse of time automatically the session will be logged out. It also generates an detailed excel sheet to check the marks scored by the students. One drawback with the Moodle quiz is that it is case sensitive and hence if an answer for certain quiz question is x and if the student writes the answer as X it will be wrong. It allows for multiple choice questions, one word answers.

This tool has been used to conduct the tests in contemporary with pen and paper test and this has proved to be better method in terms of reduction in paper used, time saver, and makes efficient way of recording information on the score.

Other tools which could be explored under this category are flip quiz, Plickers, Google forms.

b. Online collaboration:

1. WordPress:

One of the important aspects in teaching a class is to collaborate with the students and share information with them. In this aspect online collaboration plays a major role where almost all the students have access to mail and internet. Communicating with students through mail id is one form which is unidirectional where as an effective communication would be bidirectional and transparent. This aspect is supported by one such open source software again which is WordPress whose link is shared in [5]. This allows to create a website through which the teacher can share information about the course, timings of availability of teacher in the campus, location where the teacher will be available in the campus, and can make announcements, can create a page on research being carried out by the teacher so that students interested in the same can collaborate and also do discussions. If students are instructed to check the website periodically, where any information to be communicated by the teacher would be done, it becomes an update convey of information to students. Other tools which has the same capabilities are Wiki space, Gliffy, Google Classroom.

b. Presentation:

1. Screen cast-o-matic:

This tool allows teacher to create presentations and make a video and share the video on YouTube by providing appropriate license in YouTube account. Once uploaded a teacher can track number of views for that particular video and its an effective way of sharing teaching content by making use of graphics in the video. If a teacher is not able to cover any of the topics during the class hours it could be made as video and shared to students. It is also a better way of storing information about a topic which can be reused. It is also a free open source software.

CONCLUSION:

The content provided in this paper is an information of practically using these tools in teaching a course and after using these tools it has been observed that students were interested in using these tools in accessing the course content, collaborating with these tools. Some of the other tools which could also be explored is also listed the paper.

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